

## **MEETING MINUTES (FINAL)**

### **CITY OF TUCSON HABITAT CONSERVATION PLAN**

#### **Technical Advisory Committee**

**Wednesday, February 20, 2008, 1:00 – 4:00 p.m.**

**U.S. Fish & Wildlife Service, Tucson Field Office**

**201 North Bonita Ave, Suite 141**

**Tucson, AZ 85745**

#### **ATTENDEES**

#### **City of Tucson (COT) Habitat Conservation Plan (HCP) Technical Advisory Committee (TAC) members present:**

Dennis Abbate (Arizona Game and Fish Department)

Marit Alanen (U.S. Fish & Wildlife Service) – *Arrived late due to out of town meeting*

Rich Glinski (Arizona Game and Fish Department – *retired*)

Trevor Hare (Coalition for Sonoran Desert Protection)

Ries Lindley (City of Tucson – Tucson Water Department)

Linwood Smith (EPG, Inc.)

#### **Other Attendees present:**

Amanda Best (Westland Resources, Inc.)

Jamie Brown (City of Tucson – Office of Conservation and Sustainable Development)

Greg Clark (Wild at Heart)

Mike Cross (Westland Resources, Inc.)

Bob Fox (Wild at Heart)

David Jacobs (Arizona Attorney General's Office / Arizona State Land Department)

Alex Jacome (Southern Arizona Homebuilders Association)

Leslie Liberti (City of Tucson – Office of Conservation and Sustainable Development)

Jim Portner (Houghton Road Corridor Project / Westcor)

Bob Schmalzel (Westland Resources, Inc.)

Greg Shinn (Houghton Road Corridor/GRS)

Ron van Ommeren (Ecoplan Associates, Inc.)

Douglas K. Warren (Darling Environmental and Survey)

Paul Wichmann (Arizona State Land Department)

#### **1. Welcome, introduction, and TAC Charter**

After introductions, Leslie referenced the operating principles of the Technical Advisory Committee (TAC) Charter saying that the Call to the Audience agenda item is the opportunity for those present who are not TAC members or invited speakers to comment or ask questions. Otherwise, during the meeting, discussion needs to be limited to TAC members and invited speakers to keep the meeting on track. However, TAC members are welcome to ask questions of anyone in the room.

## **2. Review of TAC meeting minutes: 2-21-07, 3-7-07, and 1-16-08**

Dennis suggested that, in the first paragraph of page 4 in the 2-21-07 meeting minutes, the text should read “southeast” and not “southwest” in reference to bat roosts. The TAC approved all three meeting minutes, including Dennis’ proposed change.

## **3. Updates**

### *Resource Planning Advisory Committee (RPAC)*

Leslie reported that the RPAC met for the first time on February 6, 2008. At the core of the RPAC is the Habitat Conservation Plan (HCP) Stakeholder Advisory Committee. So that the HCP Stakeholder Committee can make formal recommendations to the City of Tucson (COT) Mayor and Council, the Stakeholder Advisory Committee was dissolved and the RPAC was created as a Mayor and Council Advisory Committee adopted by ordinance. The RPAC provides a vehicle to make formal recommendations across a broad range of resource topics related to the HCP, including invasive species management, “green infrastructure,” and watercourse protection.

The first meeting involved members getting to know each other, a presentation by Ann on the HCP and COT watercourse ordinances, and discussion of Committee member expectations. The primary, short-term objective for the RPAC is the development of a consolidated watercourse protection ordinance. Currently, the COT has three, different watercourse protection ordinances which sometimes overlap. Having three watercourse ordinances makes understanding the ordinances not only a challenge for landowners, but also enforcement by COT staff can be difficult.

### *Tucson Shovel-nosed Snake (TSS) meeting update*

Leslie reported that the Town of Marana (Marana) requested that COT staff from the Office of Conservation and Sustainable Development (OCSA) as well as Pima County meet to discuss the TSS. Marana is interested in coordinating additional TSS surveys in the northern part of Avra Valley near Marana to determine if they occur in the area. According to Marana staff, Phil Rosen thinks that if he conducted another yearlong survey and no TSS were found, he would be comfortable acknowledging that the TSS do not occur in the vicinity of Marana. Leslie said that she did not fully understand that statement based on previous conversations with Phil who said that TSS are difficult to find and that just because they are not currently detected, that they will not be detected in the future. Leslie said that apparently there are a couple of records of TSS sightings near Picacho and so we know that the TSS occurs in Pinal County south to Picacho Peak.

After discussing surveys, Leslie reported that the meeting shifted to discussion of complimentary TSS conservation programs between the COT, the Town of Marana, and Pima County. Leslie said that opportunities for the three jurisdictions to jointly mitigate are worth exploring. The Town of Marana is having difficulty finding TSS mitigation set-aside areas. One of the ideas that Scott Richardson of the U.S. Fish and Wildlife Service (USFWS) suggested at the meeting was that if the mitigation lands were acquired or otherwise protected by either the COT or Pima County, Marana would then be responsible for ongoing management. Scott R. said that the U.S. Fish and Wildlife Service would most likely consider that adequate mitigation for all

jurisdictions contributing to the effort. Leslie said that this was an initial meeting and that more discussion is needed.

Trevor said that he thinks Phil's study is important to get a better idea of the range of the TSS since the species has been detected near Picacho Peak, but that it is unknown how far south from there the TSS occur. He said that Phil's study could also help identify potential mitigation lands. Leslie said that the current conservation program for the COT Avra Valley HCP calls for protection of nearly 80 percent of TSS habitat on those lands based on Phil Rosen's model. Therefore, identifying outside mitigation lands is not as important for the COT as it is for Marana where much of the TSS modeled habitat is slated for high-density development. So, Leslie said that she thinks the COT TSS conservation strategy is at a good point and additional surveys didn't seem like an efficient use of resources.

Dennis asked if the fact that the COT and Pima County have decided not to contribute to Phil Rosen's TSS study that it will not occur. Trevor said that at Marana's Technical Biology Team meeting, he was under the impression that Marana was planning to continue with the study, though this may not be an accurate impression. Trevor said that he thinks Marana is the most important player of the three jurisdictions in terms of the TSS and so he thinks it is an important survey to undertake. Trevor asked Leslie if Scott R. shared anything about the TSS petition at the meeting. Leslie said that she thinks the USFWS is still reviewing it.

#### *Internal City of Tucson HCP discussions*

Leslie reported that City of Tucson (COT) staff from OCSD and Tucson Water has been in discussions with USFWS staff regarding the Avra Valley Planning Area. She said that the COT is planning to work with USFWS on issuing a Notice of Intent this summer and so half of the conversations have been about the National Environmental Policy Act (NEPA) process. These discussions have focused on timelines and responsibilities of NEPA-related items. The other half of the conversations have been about any implications of conservation measures on bond covenants. When the COT bonded for water infrastructure work in Avra Valley, the COT bonded against the value of some of those lands. In bond covenants, there may be restrictions on what can happen with those lands that would affect the value of the property. So, she said that COT staff need to meet with bond counsel and look at what the potential impact will be in terms of the current Avra Valley HCP conservation strategy. She said that the TAC will be updated once the meeting with bond counsel occurs. Ries added that the lands were purchased with rate payer bonds rather than general obligation bonds and so covenants differ between the two.

#### *Change in Tucson Water TAC representation*

Leslie reported that Ralph has stepped out of the TAC as the Tucson Water representative and that Ries will now be the official Tucson Water representative on the TAC.

#### *Lee Moore Wash Basin Management Study*

Jamie distributed a map that included draft floodplain delineations as part of the Lee Moore Wash Basin Management Study. Two modeling methods were used, including HEC/RAS and FLO-2D. HEC/RAS was used in areas of watercourses with distinct channels and the FLO-2D method was used in areas characterized by shallow floodplains. Based on comments from Frank Sousa, the Rules of Development are still planned for completion in 2008.

#### *HCP draft updates*

Leslie reported that February 15 was an HCP grant deliverable due date for the COT under the Intergovernmental Agreement (IGA) with the Arizona Game and Fish Department (AGFD). This deliverable was a revised draft of the Greater Southlands HCP. Some of the major updates since the planning area was expanded included adding seven new species to the list of covered species and a revised conservation program. She said that a core component of the revised conservation program, Chapter 5, involves dividing the planning area into four conservation blocks, with conservation strategies specific for each. Chapter 5 will be discussed at the March TAC meeting, giving TAC members an opportunity to provide input. The entire draft will be mailed on disk so that edits can be made in “track changes” mode, though a hard copy could also be mailed as necessary. *[Action Item: OCSD staff e-mail Chapter 5 of the 2-15-08 Prelim. Draft of the Greater Southlands HCP]. [Action Item: OCSD staff mail a compact disk containing the 2-15-08 Prelim. Draft of the Greater Southlands HCP].*

Dennis asked what the rationale for the block approach was. Leslie responded by saying that the Greater Southlands was divided into areas within Pima County’s Conservation Lands System and areas outside Pima County’s Conservation Lands System (CLS), which was the major defining factor. For lands within the CLS, the Cienega Creek Subwatershed was separated because not only are there riparian and upland species-specific concerns, but there are also concerns over how development could impact hydrological characteristics of the Cienega Creek Preserve. She said that there are six covered species that potentially use the Preserve, including at least three Endangered species. Leslie also said that the conservation measures for the three blocks within the CLS are similar.

Leslie reported that the revised preliminary draft of the AV HCP is due at the end of May. Given this, she said that the TAC should focus on the revised Southlands HCP in the near term. She said that by November, OCSD needs to have all TAC member comments on the revised HCPs.

#### **4. Discussion:**

##### A. Southlands: Westcor Master Planning

Jim began the presentation by sharing their approach to the planning process for the area. He said that they are trying to craft a process that is as inclusionary as possible, identifying the key stakeholders and developing a program of meetings with these stakeholders from the outset. Stakeholder involvement will be an iterative process, allowing them to be part of the findings as they are developed over time. Continued discussions will allow for policy objectives of all of the stakeholders to be considered. This will probably occur in a “shuttle diplomat” approach since it would be logistically difficult to meet with all stakeholders every month. For topics that concern a small percentage of stakeholders, there will be an ongoing series of individual meetings planned. Larger group meetings will be scheduled based on information gained from the individual meetings. The goal is to have the material and policies be “old news” among stakeholders by the time Mayor and Council review them for approval so that there are no surprises. Jim said that the strategy will be coordinated with staff from the Arizona State Land Department, so that they know how many meetings will be held and with whom. Asked about

the number of acres in the planning area, Jim responded that there are 12,000 acres total, of which about 4,000 acres occur within the Greater Southlands HCP Planning Area.

Greg S. said that with the large size of the planning area, it becomes a challenge to determine how to address the washes and habitat. He said that it is critical to understand the function of the washes and what is happening environmentally, not just for the 4,000 acres within the HCP planning area, but also the entire planning area. He said that there are about 18 miles of WASH ordinance washes, about 15 miles of ERZ washes, and about 126 miles of other washes. He said that they have committed to walking all of the watercourses to quantify both vegetative volumes and vegetative diversity as well as collect information in such a way that it will help them address the existing floodplain ordinances. This will involve determining the amount of Protected Riparian Areas along the watercourses. He said that the goal is to create a database that covers all of the washes, indicating conditions of each. When finished, they anticipate having 10,000 to 15,000 survey points documenting characteristics within the planning area.

Ron said that he has been surveying all of the washes and working on [Clean Water Act, Section] 404 [jurisdictional] delineation. One of the main challenges is that the site is relatively flat. There are waterways that do not have clearly defined beds and banks and there are areas of sheet flow that do not have the typical indicators of the high water mark. Also, there are vegetative swales with start-stop bed and bank. While performing the surveys, they are noting signs of wildlife use, particularly larger mammals. About 700 photos of the planning area have been taken. He added that they are coordinating with the U.S. Army Corps of Engineers on significant nexus issues and that rules have recently changed under the Rapanos guidance (i.e. U.S. Supreme Court decision in *Rapanos v. United States*). Their goal for completing the jurisdictional delineations is early summer after which they will send their results to the U.S. Army Corps of Engineers for review. Ron said that they will be using the Rapanos guidance but that it does not provide specific thresholds for distance from navigable waters and what constitutes a traditional navigable water.

Greg S. said that their goal is to develop an all-encompassing watercourse protection program based on both the jurisdictional delineations and COT watercourse protection ordinances when their team meets with OCS staff members. He said that they want to understand the habitat and the communities and protect them where it is appropriate in a “broad brush” manner as opposed to counting every riparian associated plant on the 12,000 acres. Leslie said that Pima County’s envelope-based riparian protection had been discussed in contrast with focusing on individual plants, as required by the COT. One task is to analyze protection differences between COT and County riparian protection methods in a test area within the planning area. One of the other things discussed for such a large area is providing greater protection, such as buffers, on the more meaningful watercourses in exchange for recognizing the more limited value of smaller or less vegetated watercourses.

Jim said that they are under the Arizona State Land Department’s strict mandate to maximize value to the State’s educational trust according to the State constitution. However, he said that when dealing with 12,000 acres, there is flexibility in determining locations to preserve and to develop with the aim of elevating the value of developable lands adjacent to preserves or preservation corridors. From their perspective, they look at it as a meaningful opportunity to set-aside the important corridors, assess them for pure preservation or mixed-use preservation, and

dovetail all of that with adjacent developable blocks. These developable blocks will be economically viable and maximize value to the State educational trust by preserving vegetative, riparian, and recreational resources on the property in perpetuity.

Rich asked the HRC planning team if they were operating under any constraints, such as miles of infrastructure or roadways to be constructed. Jim responded by saying that one of the requirements of the Scope of Work is to consider planning elements through a land use perspective as well as a transportation perspective. This will involve identifying the skeletal infrastructure, considering prudent phasing, and weighing financing mechanisms over time. The goal is for the effort to not only pay for itself over time but also contribute to COT revenue. This is because infrastructure impacts from the project will ripple back through the metropolitan area and so their team needs to assign costs appropriately. Jim said that conversations about preservation will likely collide with conversations about infrastructure. To deal with these potential conflicts, they will facilitate discussion between knowledgeable stakeholders to explore policies that balance those two competing interests. Jim emphasized the importance of collecting good on-the-ground natural resource data to inform decisions.

Rich said that in biological planning, it is often the case that decision-makers do not have all of the necessary data. He used the example of protecting certain areas for burrowing owls based on modeled habitat, which may prove not to be accurate over time. In that case, adaptive management can be applied. He added that certainty does not exist for all natural resource questions. Greg S/ said that this is the first time he has seen data collection of this magnitude. He agreed with the point that once infrastructure engineering has been done, it is very difficult to change because of the high costs.

Jim said that he is on the same page and is looking to OCSD for help with Planned Community Development policies and codes, which can be very inflexible. Current policies and codes require amendments and going back through the public process for minor changes (e.g. change from wedge curbs to vertical curbs). They will be looking for policies that give them a much greater level of future development flexibility in the planning area so that some components can be reasonably adjusted as need be. He said that they have been in conversation with staff members from the COT Urban Planning and Design Department and they are in uncharted territory because, traditionally, once the lines have been drawn, they are very difficult to revise. Given the size and long buildout horizon, flexibility makes sense and is necessary. Trevor said that being part of a Habitat Conservation Plan could address the need for flexibility. He said that he thinks there will be more endangered species in the area in the future.

Leslie said that the COT is looking at how to revise the COT Land Use Plan to create a code that provides both certainty and flexibility. She said that the COT is operating under codes inherited from an era that really didn't focus on issues of environmental conservation or sustainability. So, this is an opportunity to address not just environmental regulations, but also items such as parking requirements. This might involve shared parking or other methods to reduce the amount of parking on the site. Or, this might involve reducing the amount of paved surface, thereby reducing the amount of runoff, reducing urban heat island effects, and increasing the value of the property.

Dennis asked when the planning team anticipates having the environmental assessment completed. Greg S. said that the first phase will be completed in May or June, with the entire planning process ending in about three years. Jim said that this will be occurring concurrently with complete marketing studies, engineering and infrastructure projections, and financing evaluations.

Dennis said that he wanted to know more detail about the first blush assessment Greg S. was describing and whether or not any of the information collected would be available to the TAC sooner rather than later. This would help the TAC understand the area better as well as help determine the kinds of conservation actions to be utilized. Rich concurred. Dennis said that helpful information could include, for example, unusual features such as nesting areas, or high concentrations of animals.

Jim said that they are operating under a planning permit, which stipulates what information can be made fully available to the public versus what is considered draft information. Ultimately, some of these properties will go to a public auction and so there are very strict rules about the information that can be brought to the public. Rich commented that not sharing the data could make it difficult to gain stakeholder commitment to the project. David responded by saying that these restrictions on data sharing are described in State Statutes and permits, which state that information is not public until the process is complete. However, David said that the initial stage is reasonably short and they do not anticipate the information will be locked away for many years. He said that if there is a way to make the information public, he is confident that ASLD would consider it. Dennis said that it sounded like the data will not be available until after the planning process is complete. David said that if the information is brought to meetings such as those of the TAC, it becomes public. However, he said that there are levels of information such as “for planning purposes only” versus “confidential,” which needs to be discussed internally. Jim said that this will be a line that will have to be walked so that stakeholders have enough information to make decisions and have buy-in in the process before it goes to the COT Mayor and Council.

Linwood asked if the wildlife data were being collected systematically or as it occurs. Ron responded by saying that it was being collected as it occurs. Trevor said that there are many desert tortoises in the area. Linwood said that it is ideal habitat for rufous-winged sparrows, which were categorized by Pima County as a Priority Vulnerable Species. Ron said that they have plant and animal lists and they are recording wildlife tracks and other evidence by GPS. However, they are not systematically surveying for desert tortoises or rufous-winged sparrows since they are not part of their Scope of Work.

Dennis asked if daily or seasonal wildlife cycles (e.g. nocturnal surveys for bats or owls) will be factored into the environmental data collection effort. Ron said that they are currently not scoped for that. They are doing a Biological Evaluation to address Endangered and Threatened species. Dennis asked if would be fair for the TAC to conclude that a great deal of species information will be missed, given how they have described their surveys. Ron said that, yes, with 12,000-acres, that is a fair conclusion. Greg S. said that they will be surveying for Pima pineapple cactus. Ron said that they are considering lesser long-nosed bat and cactus ferruginous pygmy-owl surveys.

## B. Burrowing Owl

### *Wild at Heart (Bob Fox and Greg Clark)*

Trevor asked Bob and Greg C. about certification and training requirements needed to locate and handle the burrowing owls (BUOW). Bob responded by saying that this is something they are working on, but currently, there are no guidelines or requirements. He said that biological surveyors can and do find burrowing owls. Dennis said that there will be a Burrowing Owl Working Group meeting on 2/21/08 and one of the topics for discussion will be the upcoming training on BUOW handling. Dennis also said that he can forward additional BUOW questions from the TAC to the Burrowing Owl Working Group for responses.

Trevor asked about passive relocation to which Bob responded that passive relocation involves excluding the birds from their existing site and putting artificial burrows in an adjacent area. Rich asked who has all of the data on translocations, such as how many have occurred, from where, and to where. Bob responded that David Grandmaison of AGFD is the point person for that information. Trevor said that the concern was that the TAC didn't want BUOW hacked on the same site that was recently hacked, thereby inflicting resource pressures on the existing owls.

Bob provided an overview of Wild at Heart's work, saying that they coordinate with the development community to identify areas where BUOW are located. They do passive relocation where it is appropriate, but, in most cases, it is not appropriate. He noted that relocation requires a permit from the U.S. Fish and Wildlife Service. Once they have determined the number of owls that have been located, they go with the developer to get a permit application from the U.S. Fish and Wildlife Service. Once the permit is issued, they are contracted to trap the owls and then they excavate the burrow from front to back, ensuring that no BUOW remain. They also excavate all other on-site burrows, not just those currently inhabited. Bob said that trapping and excavation can be either quick or time-consuming depending on the birds. However, it is a process that works very well.

Bob continued by saying that BUOW are transported and kept at their facility in Cave Creek for a minimum of 60 days. The goal is to break them of their site fidelity, otherwise they run the risk of the BUOW returning to the excavated location. After the 60-day period, they are taken to a hack site, which is a net-enclosed set of artificial burrows. Here, they are kept for an additional 30 days where a volunteer feeds them. At the end of the 30 days, the net is removed. Once September arrives, they do not perform any releases, but, instead, winter the owls at their facility. In the spring, they place BUOW in colony groups. Once the nets start coming down, they have eggs in most of the burrows. So, new offspring are being produced at the new sites. BUOW are returning to sites in succeeding years and breeding on the new sites also. Bob said that have recently learned that it does not appear to impact the BUOW genetically by translocating them from the Phoenix area to Tucson or Kingman. He said that they are also very careful in selecting the locations where owls are translocated. If there is currently a healthy population in an area, they do not translocate owls to the same site. They are looking for sites that have the conditions to support BUOW, but do not currently have BUOW on the site.



Greg C. reported that Bob coordinates the “front end” of the process by safely removing the owls from sites slated for development. In contrast, his role is to identify sites suitable for artificial burrows. Artificial burrows are readily adopted by BUOW, and in this area of Arizona, they appear to greatly prefer artificial burrows to natural burrows. Assuming they can find large open sites with suitable habitat, low risks for the owls, good food resources, and no future development threat, then Wild at Heart secures grant funding sources for installing the artificial burrows. Currently, there are 40-50 sites throughout Arizona. There have been about 2,800 artificial burrows installed at a rate of about 800 to 1000 burrows per year. Southwest Gas, Tucson Electric Power, the Southern Arizona Home Builders Association, and a variety of big contractors have helped by donating equipment and labor for this work, but they also get volunteers from every conceivable community group. Fifty percent of the cost involves digging the trenches that are needed to install the burrows, which are four feet deep to get down to a stable ground temperature.

Greg C. said that every part of the state, except the extreme northeast corner, has had a BUOW relocation effort taken place. The geographic area does not seem to matter for relocation as much as finding the right kind of habitat and installing many burrows. If it is large area – 100 acres or more and preferably surrounded by a lot more open acreage – Wild at Heart installs 100 burrows or more, which seems to be very successful. There is no charge to the developer for habitat creation and it is all based on grant money.

Bob said that community involvement is very valuable because it brings the conservation issue into the home and increases community awareness. If these volunteers see a “for sale” sign on a property, Bob is alerted almost immediately. Since they have had a good relationship with developers, primarily in the Phoenix area, he said that he gets calls from them about possible BUOW issues before they buy a property. Bob acknowledged the support of the Arizona Game and Fish Department. They are doing the research, following-up to the work that Wild at Heart is doing, and helping identify possible artificial burrow locations. He added that the U.S. Fish and Wildlife Service permit staff has also been very helpful by turning around permits quickly, especially when BUOW arrive at the last minute on a property being developed. Greg distributed informational brochures to TAC members.

Ries asked Greg C. if installing a certain threshold number of artificial burrows tends to more effectively keep the BUOW on the site. Greg C. responded by saying that there are typically two kinds of sites, those associated with active, year-round, agricultural lands and those on natural sites. He said that if they install a minimum of 100 burrows on agricultural lands and they relocate 24 owls – a number typically associated with that many burrows – most of those owls will stay at that site. They stay because the site has a seemingly infinite food supply close to the burrows, extremely low threat of predation, and pocket gophers digging more potential burrows. When translocating to natural lands, the lands available for BUOW must be larger because the owls will need to fly farther to find food. The farther they fly, the more burrows they need. The risk assessment for BUOW is such that if they are nervous, they are going to abandon the site. If it is like open grassland, with few trees, there are fewer perching resources available for predators who would ambush and stalk the BUOW. The BUOW is the only raptor in the world that lives underground. So, when they consider natural sites for translocating, they are looking

for thousands of acres. Hundreds of burrows go in and, in fact, last year 650 burrows were installed at one site and they will install 300 more burrows this year. But, he said that it is surrounded by many open sections of lands. Only about 20 to 50 percent of the BUOW released will stay, even at one of these large sites. He said that they want the number of owls associated with artificial burrows to be high, but they cannot guarantee that and there is not enough information available to know how, or even if, that is possible. He said that if they install many burrows, they raise likelihood that the BUOW will remain at the site.

A question was asked if there are differences between retired agricultural land and active agricultural land. Greg C. said that retired agricultural land is highly desirable to BUOW. It is one of the best places to translocate BUOW because the threat is so low. But, bare land/retire agricultural has the same food requirements as natural land. He said that poorly vegetated land is a wonderful resource for BUOW because its threat potential is so low. The only thing that they need to do is make sure that there are enough burrows installed so that they can reach the food supply. The Simpson Farm in Marana is a good example. He said that his job is to evaluate the success of these habitats and establish the best model, which is what they have been doing since 2002. Sites have been evaluated step-by-step to find what works. For example, they have learned that small sites do not work well while large ones do.

Dennis asked if the type of crop makes a difference to the BUOW. Greg C. said that, with cotton, if burrows are installed some distance from the crop, they will eventually move closer to the crop. He thinks that if a detailed study were undertaken, they may find differences in certain crops that, for example, may attract more pocket gophers. But, he said that he is not so sure that the crop makes much of a difference to the owl. The only difference may be the number of fossorial mammals attracted to an agricultural site. Greg C. continued by saying that the BUOW appear to thrive with active agricultural lands in close proximity to their burrows. If the agriculture ceases, they may, in fact, abandon the burrows. He described sites in Willcox near active agriculture. At the site where the agriculture ceased, the BUOW left. At the site where the agriculture continued, the BUOW stayed. The continuous presence of agriculture can allow one to install burrows densely and the BUOW will live in harmony for many months.

Trevor said that this sounded counterintuitive as the spraying done on active agricultural lands would seemingly reduce the prey base for the BUOW. Greg C/ said that BUOW have the highest pesticide load of any raptor in the world. So, perhaps they are immune to pesticides or the nature of pesticides has evolved so they are not as harmful to BUOW. It appears that they will tolerate the current pesticide practices.

Trevor asked about organic farming in California and if anyone has compared productivity of BUOW on lands adjacent to organic farms as opposed to conventional farms. Greg C. said that he wasn't aware of such a study.

### C. Pima Pineapple Cactus

#### *PPC discussion meeting*

Leslie reported that several weeks ago, she, Jamie, Marit, and Mima Falk (USFWS), met to discuss Pima pineapple cactus (PPC) conservation strategies. Based on that lengthy discussion,

she reported that it appears that there are not many options. Part of the difficulty is how little is known about the overall habitat needs of the species as well as issues of preserving the plant itself given all of the dynamics of PPC habitat. The group concluded that having an offsite mitigation strategy, at least for the northern portion of the planning area, would probably be the best measure for preserving the PPC. This is because preserving individual plants or even patches of habitat within a developed environment may not benefit the species in the long run. And, so much uncertainty means that we would not know the effects for many years. Leslie said that Mima F. suggested the idea of a third party mitigation banking option in which landowners sell credits for establishing PPC conservation areas on their property that are protected in perpetuity.

*Develop list of questions to ask experts*

Leslie said that OCSD and USFWS staff also discussed collecting information about the PPC from a variety of experts in a concise format. The proposal is to generate a list of questions to be addressed by PPC experts in one page white papers, which will include the author's name and will include a separate page of citations used or recommended. Those white papers will be given to TAC members along with other peer reviewed literature, including the USFWS 5-year PPC update. Probably beginning in May, Leslie said that the TAC can begin discussion of PPC conservation based on these readings. Leslie also said that Mima F. is making inquiries into options for third party mitigation banking with the hope that, by May, OCSD staff will have some information on that. Marit concurred with Leslie's report.

Trevor asked about the number of experts. Leslie said that there are experts on not just the PPC, but also pollinators of PPC. So, an individual may respond to just one question, depending on her or his level and area of expertise. She said that OCSD and USFWS staff will create a draft list and circulate to the TAC for their review. *[Action Item: OCSD staff coordinate with USFWS regarding draft list of possible PPC experts to answer questions from the TAC]*. Trevor asked about the USFWS 5-year PPC Review and whether or not it was peer-reviewed. Marit said that it was and that the peer review extended beyond the borders of Arizona.

Leslie said that the two questions suggested thus far are:

- 1. Describe how your research and/or observations contribute to the recovery of this species and its habitat within the context of the City of Tucson's HCP?*
- 2. What recommendations would you make for the long-term conservation of this species and its habitat within the context of the City of Tucson's HCP?*

Leslie said that these will be distributed to TAC members so that they can add additional questions or suggest edits to these questions. Once agreed upon at the next meeting, then the questions will be distributed to experts. She said that the suggestions on the questions and experts should be shared with OCSD staff by March 12 so that they can be redistributed to the TAC for consideration before the March 19 meeting. Trevor suggested that the PPC discussion take place over more than one meeting and that experts be invited to present to the TAC. Leslie said that some may not be able to attend or don't want to attend and present. She added that the proposed approach avoids the continuous question and answer back and forth. The idea is for the

TAC to get the white papers, review them, and discuss them amongst themselves. If questions need to be asked or if the TAC requests a panel after this initial discussion, Leslie said that the best approach can be considered.

Trevor recommended that the wording of the second question be changed to: “. . . and its habitat in the context of the species entire range but specific to the City of Tucson’s HCP.” Rich suggested something like “How do conservation measures within the City of Tucson’s HCP contribute to conservation of the species throughout its range?” Ries asked if by “HCP,” just the planning area is what the experts will consider or if they need to be familiar with the entire draft HCP document. Leslie responded by saying that the Greater Southlands HCP Planning Area is what that specifically means.

#### *Pima Pineapple Cactus (PPC) Survey*

Jamie referred to Marc Baker’s Pima pineapple cactus (PPC) survey transect lines from his 2005 and 2007 surveys in the original and expanded Southlands HCP planning area. Trevor said that Marc Baker should do a power analysis on whether or not he has adequately covered the area. Dennis asked if Marc Baker created a final report on his 2007 survey, to which Jamie said that he had and Leslie said that TAC members should have it. *[Action Item: OCSD staff distribute Marc Baker’s PPC study to the TAC]*. She reminded the TAC of his 2005 survey in which he examined aerial orthophotos and soil maps and then drew polygons on maps of probable areas of higher density PPC lands. He then did transects both inside and outside of the polygons and then adjusted them slightly. Leslie said that he was asked to use that same method in the Southlands but Marc didn’t think it would be feasible. Dennis asked Leslie if Marc distinguished age groups or health in the PPC he detected to address regeneration or the health of the population. If not addressed in the survey reports, Rich suggested that this could be a question posed of PPC experts for their written responses.

### **5. Topics for upcoming meetings**

*March:* 1) Jamie reported that the discussion item scheduled for today’s meeting regarding buffelgrass fuel loading and fire behavior had been postponed because Tucson Water staff wanted more time to discuss it internally. Instead, Perry will speak at the March 19 TAC meeting. 2) Jamie reported that Chapter 5 will be sent via e-mail to the TAC for their review prior to the March 19, since that has undergone significant changes from previous drafts.

*April:* Rich reported that Dennis Kubly, a Bureau of Reclamation staff member and adaptive management proponent, has been invited to speak to Marana’s Technical Biology Team and the TAC on April 16. Trevor suggested getting Pima County staff, such as Brian Powell and/or Kerry Baldwin, to one of the meetings with Mr. Kubly. Rich suggested that Dennis Kubly’s local counterpart on adaptive management from USFWS also attend.

In reference to unscheduled future agenda items, Trevor said that the TAC should discuss the need for desert tortoise surveys earlier rather than later. Leslie said that the TAC can discuss this after the March meeting. Leslie said that the question is whether or not we need to do some ground-truthing of Pima County’s desert tortoise habitat model within the HCP Planning Area.

Jamie reported that Steve Anderson, a planner with Pima County Natural Resources Parks and Recreation, has been coordinating an effort to update the Eastern Pima County Trails Master Plan. He is interested in working with the COT on trails planning in the Greater Southlands HCP planning area. TAC members agreed that this would be an appropriate meeting topic.

#### **6. Call to the audience:**

Amanda asked if BUOW translocations were being coordinated with prairie dog reintroductions in southeast Arizona. Bob said that he thinks they should wait until there is a stable population of prairie dogs established because BUOW can eat prairie dog young. But, he said, it seems like a natural fit when the time is right. Marit referred to the Gray Ranch prairie dog reintroduction and said that BUOW found the area on their own, within weeks of the prairie dog reintroduction. Greg said that the burrow systems that Wild at Heart artificially creates is based on the prairie dog model for that project.

#### **7. Adjournment**

After noting that the March 5, 2008 meeting had been cancelled, Leslie adjourned the meeting at 3:30 p.m.

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#### **Summary of Action Items:**

- OCSD staff will e-mail Chapter 5 of the 2-15-08 Prelim. Draft of the Greater Southlands HCP;
- OCSD staff will mail a compact disk containing the 2-15-08 Prelim. Draft of the Greater Southlands HCP;
- OCSD staff will coordinate with USFWS regarding draft list of possible PPC experts to answer questions from the TAC, and;
- OCSD staff will distribute Marc Baker's PPC study to the TAC.